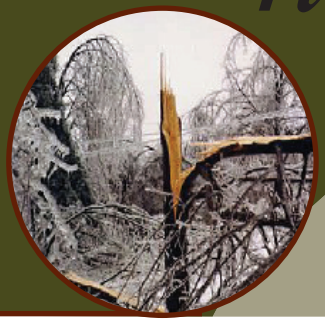
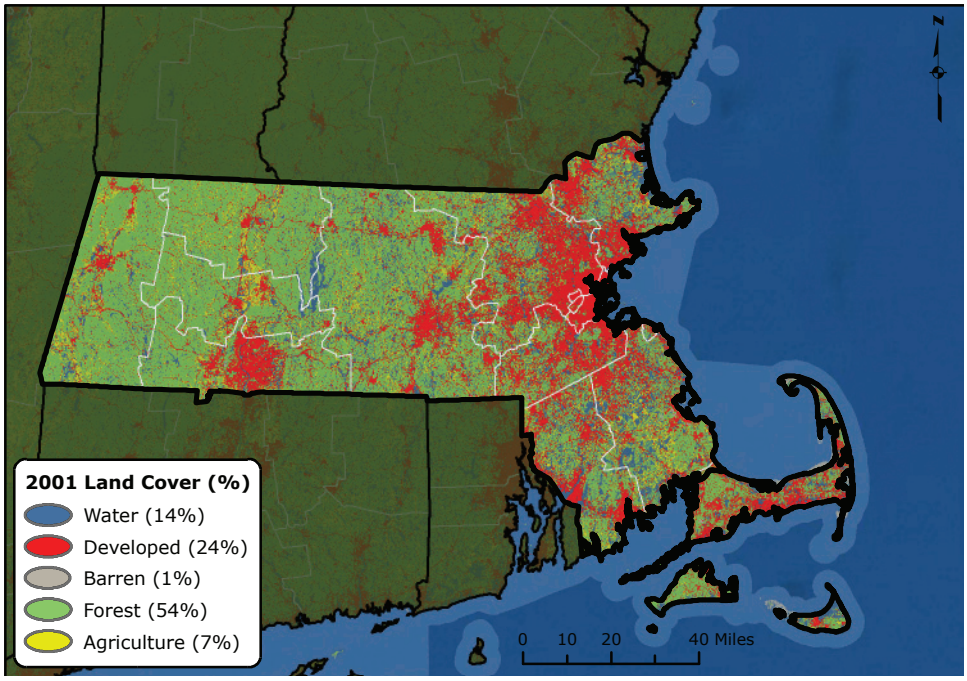
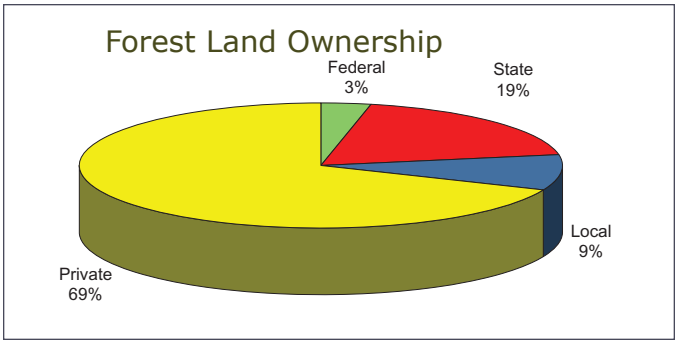
2010 Forest Health MASSACHUSETTS *highlights*



Forest Resource Summary

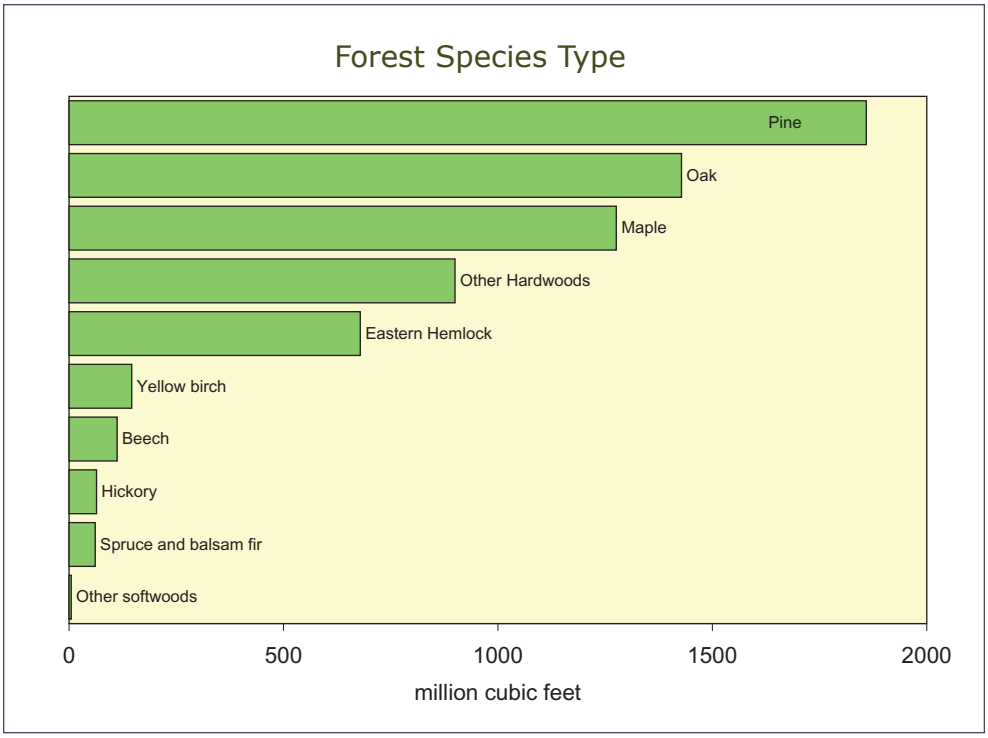
The forest resource of Massachusetts has great demands placed on it. Although Massachusetts is thought of as an urban State, about half of the land area is forested. This forested area is managed for a multitude of purposes, including recreation, water quality, wildlife habitat, and a forest product industry. About two-thirds of the forest lands in Massachusetts are privately owned—69 percent—with only 3 percent in Federal ownership. However, 28 percent is in State and local town ownership, which is quite unique in the region. The latest Massachusetts forest inventory estimates that 54 percent of the State is forested, approximately 3.2 million acres. The forest resource is made up of a variety of forest types,





Forest Health Programs in the Northeast

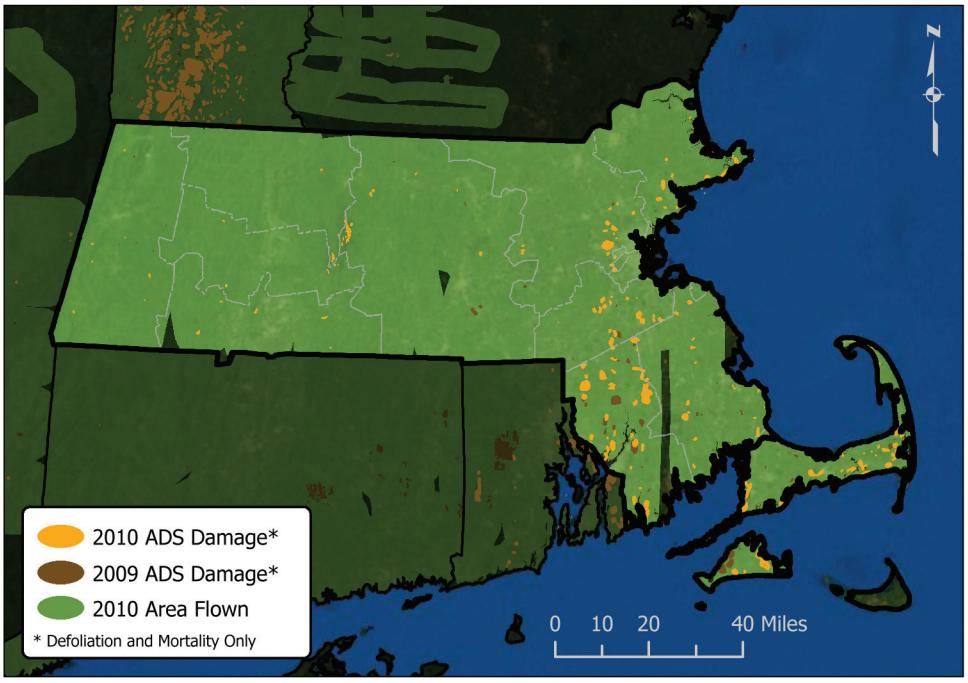
State forestry agencies work in partnership with the U.S. Forest Service to monitor forest conditions and trends in their State and respond to pest outbreaks to protect the forest resource.



mostly pine, oak, maples, other hardwoods, and eastern hemlock.

Aerial Surveys

In Massachusetts, over 118,000 acres of damage were reported. Defoliation impacted about half of this area, and discoloration and morality affected less acreage. Almost all of the defoliation was caused by the winter moth, with little damage from gypsy moth or forest tent caterpillar. Over 40,000 acres of damage was mapped due to the May frost event. Additional damage was attributed to red pine scale and Dutch elm disease.



This map delineates aerial detection survey (ADS) results for Massachusetts in 2009 and 2010.

Forest Damage

The **Asian longhorned beetle**, *Anoplophora glabripennis*, was first detected in Massachusetts in August 2008 in the city of Worcester (photo 1). By the end of October 2010, 18,790 trees had been identified as infested and 28,367 infested or high-risk trees had been removed. A quarantine area of 94 square miles has been established. Recent finds of infested trees in forested areas in the towns of Boylston and West Boylston, adjacent to the Wachusett Reservoir, are of great concern. Over 624,000 trees have been surveyed for the beetle in Worcester County.

On July 3, 2010, an Asian longhorned beetle infestation was discovered in the Jamaica Plain suburb of Boston at the Faulkner Hospital. Six infested trees were located on the hospital's grounds. Crews removed the trees the next day and started initial ground surveys. A 10-square-mile regulated area was formed that encompassed parts of the town of Brookline and suburbs of Boston, including Jamaica Plain and West Roxbury. Over 35,505 trees in the Boston area were surveyed for the beetle, and no other infested trees were found or reported. The Massachusetts Department of Conservation and Recreation (DCR) Forest Health Program, in cooperation with USDA APHIS, is the lead State agency in charge of Asian longhorned beetle eradication efforts in the Worcester County and Boston infestations.

Surveys for **emerald ash borer**, *Agrilus planipennis*, continue in the State at 20 sites. The nearest known infestation of this significant invasive insect is now in eastern New York near the Connecticut border. Traps were concentrated in high-risk areas, including private campgrounds and highway rest areas. The State also conducted biosurveillance monitoring for emerald ash borer by locating and monitoring nesting sites of the predatory wasp *Cerceris fumipenis*.

Photo 1.—Worcester neighborhood following tree removal for Asian longhorned beetle (Massachusetts DCR)

Traps have been installed and monitored as part of the national **Early Detection Rapid Response** project for exotic Scolytidae beetles. Bark beetles were collected at 12 high-risk sites statewide that each have three Lindgren funnel traps. The State also continues to supply the USDA APHIS Otis Methods Lab in Massachusetts with wood for rearing Asian longhorned beetles and emerald ash borers for research activities.

During the spring and early summer of 2010, approximately 1,785 acres on the islands surrounded by the Quabbin Reservoir experienced heavy hardwood defoliation from the **forest tent caterpillar**. This is the second season of heavy defoliation and, as a result, many of the maple trees on the islands are beginning to show signs of stress. In addition, the **winter moth** caused 65,096 acres of hardwood defoliation in the eastern part of the State as observed during early spring aerial surveys. Mortality was documented in Bristol, Barnstable, and Norfolk Counties due to multiple years of defoliation and *Armillaria* root disease. Efforts by the U.S. Forest Service and the University of Massachusetts to use

the biological control *Cyzenis albicans* for the winter moth are making slow but steady progress. At the time of this writing, this parasitic fly has been recovered from three previous release sites in the State.

Red pine scale continues a slow spread statewide (photo 2). Large areas of mortality are now being mapped aerially with 1,112 acres of mortality detected. **Hemlock woolly adelgid** populations have been increasing with additional reports of infested hemlock trees (photo 3). In 2010, hemlock woolly adelgid was reported in two new communities. The State is monitoring for previously released biological control species—*Sasajiscymnus tsugae* and *Laricobius nigrinus*. *Laricobius*, reared by West Virginia University, was recovered for the first time on Mount Tom in Holyoke. **Elongate hemlock scale**, *Fiorinia externa*, has been noted statewide and appears to be increasing, especially in southern Berkshire County. Large numbers of the **pine leaf cherimid,** *Pineus pinifoliae*, were discovered in late May on white pine in the western part of the State. Some thinning of foliage was evident.

Diplodia tip blight, *Sphaeropsis sapinea*, was widespread in red pine stands on Martha's Vineyard, causing 4,667 acres of defoliation. **Rhizosphaera needlecast disease** caused significant lower canopy defoliation on blue spruce in western Massachusetts (photo 4).

There was a **late spring frost** in May that caused 40,282 acres of defoliation and discoloration in central and western Massachusetts, primarily on oak species. **Drought** conditions were evident throughout the 2010 growing season with little measureable rainfall in most locations statewide. This caused already stressed street trees in many areas to decline and die.

Photo 2.—Red pine scale damage in pine stand (Massachusetts DCR)

Photo 3.—Protecting a "champion hemlock" from hemlock woolly adelgid (Massachusetts DCR)

Photo 4.—Needlecast disease on blue spruce (Massachusetts DCR)

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